The prevalence of poultry-related foodborne pathogens along the farm-to-fork continuum in the poultry industry in Sri Lanka

Gayani Weerasooriya[1], M.A.R. Priyantha[1], Damer Blake[2], Guillaume Fournie[2,3], Nilukshi Liyanagunawardena[1], P.S.Fernando[4], P.S de Alwis[1], Sandun Bandara[1], K.R.P.S.Premarathne[1], H.M. Madushi Thakshila[5], P.A. Udeshika Sewwandi[5], Hemal Rasanjana Peiris[5], Ruwani Kalupahana[5]

[1]Veterinary Research Institute, Sri Lanka
[2]Royal Veterinary Collage, UK
[3]National Research Institute for Agriculture, Food and the Environment (INRAE), France
[4]Department of Animal Production and Health, Sri Lanka
[5]University of Peradeniya, Sri Lanka
gayaniw13@gmail.com

Introduction

- Foodborne pathogens present a major concern in the global poultry industry due to their impact on food safety and public health.
- *Campylobacter* and *Salmonella* from chickens are considered as major foodborne pathogens, their prevalence within Sri Lankan poultry production systems is not clear.
- Objective; To analyse the evolution and spread of poultry-related zoonotic pathogens and antimicrobial resistance along the farm-to-fork continuum in the poultry industry in Sri Lanka.

Hypothesis; The evolution and spread of poultry-related zoonotic pathogens and antimicrobial resistance along the farm-to-fork continuum may vary with the production system and the geographical area.

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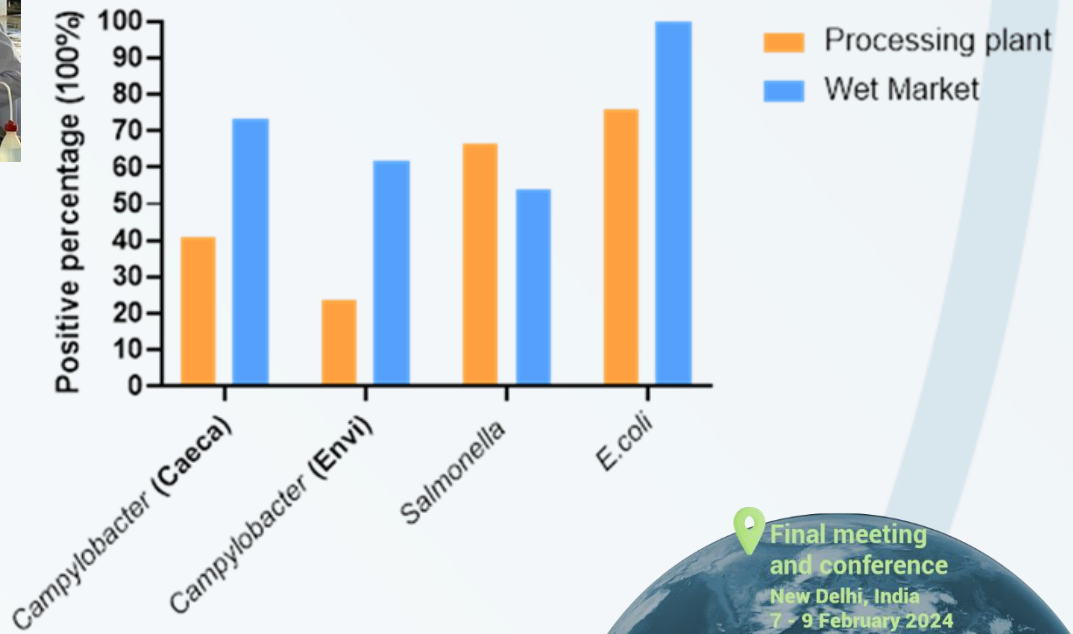
Methods and results

- **Methods**
  - Samples were collected from Western and North western Provinces from October to December 2023 from large scale processing plants (7 plants, 3 batches/plant, n=21 batches) , and wet market (n=13)
  - Cloacal, ceacal and environmental swabs with pooled environmental samples were collected for isolation of *Salmonella* , *Campylobacter* and *E. coli.*

- **Results**
  - *Campylobacter* positive percentages were significantly high in the Wet market (73.1%, 61.5%).
  - Non typhoid *Salmonella* was detected in most plants and markets, while was high in processing plants (66.6%).



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Discussion

- **Discussion**
  - Prevalence of *Campylobacter* (ceacal) was similar to the previous studies done in Sri Lanka (Kottawatta et al.,2017).
  - The lower environmental *Campylobacter* percentage in the processing plants may be due to the frequent washing of the unloading bay in the processing plants compared to the wet market.
  - The high positive *Salmonella* in environmental samples in the large scale processing plants may be due to higher shedding and higher survivability of *Salmonella* in the environment.
- **Conclusions and recommendations**
  - The risk of poultry foodborne pathogens in Sri Lankan food chains was highlighted in this study.
  - A national surveillance program on foodborne pathogens was highly recommended.
  - Work to define the antimicrobial resistance profiles of bacteria isolated here is ongoing.

References; Kottawatta, K.S., van Bergen, M.A., Abeynayake, P., Wagenaar, J.A., Veldman, K.T., & Kalupahana, R.S. (2017). *Campylobacter* in Broiler Chicken and Broiler Meat in Sri Lanka: Influence of Semi-Automated vs. Wet Market Processing on *Campylobacter* Contamination of Broiler Neck Skin Samples. Foods, 6.

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